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EXAMINER

LE, JOHN H

ART UNIT

PAPER NUMBER

2863

DATE MAILED: 07/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/056,495

Applicant(s)

SOKAC ET AL.

Examiner

John H Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-25 and 27-32 is/are rejected.
- 7) ☒ Claim(s) 6 and 26 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claim 25, 26 are objected to because of the following informalities:

Claim 25, line 1, "PWBA", should change to –product printed wire board assembly (PWBA).

Claim 26, line 1, after "servo specifications", insert –of the encoder.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-5, 7-8, 12-13, 22-25, 27, 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Andersen (USP 6,401,054).

Regarding claims 1-3, 7, 22-25, Andersen teaches a method of statistical analysis in an intelligent electronic device for data reduction and analysis, the method comprising: continuously monitoring a component as voltage sensors 32, current sensors 34; sensing a characteristic of the component (Col.2, lines 43-49); performing real time statistical calculations using sensed values of the characteristic of the component (Col.19-31); and storing, in a memory, data

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including results of the calculations (Col.2, lines 53, Col.5, lines 42-51) indicative of a fault (Col.3, lines 29-40, Col.4, lines 36-40, Col.6, lines 10-15), providing for retrieval of the data (Col.1, lines 50-57, Col.6, lines 10-15), uploading the data to a main controller 44 at regular intervals (Fig.1, Col.2, lines 62-67), for allowing retrieval of the results by service personnel (Col.3, lines 35-41).

Regarding claims 12 and 32, Andersen teaches the main controller 44 analyzes the data as necessary (Col.3, lines 18-41).

Regarding claims 13 and 27, Andersen teaches only data values outside of normal run limits would be recorded and studied (Col.3, lines 18-41).

4. Claims 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Patel et al. (USP 6,405,108).

Regarding claim 14, Patel et al. teach a process and system for developing an algorithm for predicting failures in a system (Abstract), the method comprising: communicating data about machine operation to service personnel (Col.8, lines 49-59); and alerting service personnel, when a threshold of events is reached, that a failure is imminent (Col.6, lines 13-15, Col.8, line 60-Col.9, line 9).

Regarding claim 15, Patel et al. teach allowing access to the data to determine if further repairs are needed (Col.2, lines 17-23).

Regarding claim 16, Patel et al. teach the data can be accessed remotely (Col.8, lines 53-59).

Claim Rejections - 35 USC § 103

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-5, 8, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersen (USP 6,401,054) in view of Salazar (USP 5,130,710).

Regarding claim 4, Andersen teaches A/D converter 40 convert sensing signal of sensors 32, current sensors 34 to digital signals.

Andersen fails to teach the component is an encoder.

Salazar teaches encoder 205 (Fig.8, Fig.13, Col.21, lines 22-38).

Regarding claim 5, Salazar teaches timing control 302 (Fig.13).

Regarding claims 8 and 28, Salazar teaches a serial control bus S0-S3 (Fig.5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a encoder 205, timing control 302 as taught by Salazar in a method of statistical analysis in an intelligent electronic device for data reduction and analysis of Andersen for the purpose of providing an improved electronic control for a plurality of d.c. motors (Salazar, Col.4, lines 50-55).

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7. Claims 9-11, 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersen (USP 6,401,054) in view of Matsueda (USP 5,420,849).

Regarding claims 9 and 29, Andersen fails to teach each data point is put into a range bucket.

Matsueda teaches each data point is put into a range (Col.15, lines 39-59).

Regarding claims 10 and 30, Matsueda teaches incrementing an event count at a respective location when a data point falls into a range (Col.16, lines 39-59).

Regarding claims 11 and 31, Matsueda teaches that the data are represented by a counter rather than a real encoder value (Col.1, lines 39-45, Col.4, lines 26-39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to inform each data point is put into a range as taught by Matsueda in a method of statistical analysis in an intelligent electronic device for data reduction and analysis of Andersen for the purpose of providing an optical data reproduction apparatus which can accurately detect an array of pits which are arranged according to a predetermined rule, even when the relative moving speed between a recording medium and a reproduction head varies (Matsueda, Col.2, lines 20-25).

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8. Claims 17, 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patel et al. (USP 6,405,108) in view of Mir et al. (US 2003/0046029 A1).

Regarding claim 17, Patel et al. fail to teach the component is a motor encoder.

Mir et al. teach a motor rotor position encoder 14 to detect the angular position of the rotor, the position encoder 14 outputs a position signal 24 indicating the angular position of the rotor ([0020]).

Regarding claim 20, Mir et al. teach the component is responsible for timing functions ([0027]).

Regarding claim 21, Mir et al. teach the component produces and the system records pulse width modulation (PWM) values ([0026], [0028]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a motor encoder 14 as taught by Mir et al. in a method of statistical analysis in a process and system for developing an algorithm for predicting failures in a system of Patel et al. for the purpose of providing a method and system for phase angle diagnostics in a sinusoidally excited PM electric machine (Mir et al., [0009]).

9. Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patel et al. (USP 6,405,108) in view of Andersen (USP 6,401,054).

Regarding claims 18-19, Patel et al. fail to teach the component is a sensor, the component is a power supply and the data reflect voltage readings.

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Andersen teaches the component is the sensors 32, 34 (Fig.1), the component is a power supply 63 and the data reflect voltage readings of voltage sensor 32 (Fig.1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the sensors 32, 34, and a power supply 63 as taught by Andersen in a process and system for developing an algorithm for predicting failures in a system of Patel et al. for the purpose of providing the electronic trip unit comprising voltage and current sensors provide which analog signals indicative of the power line signals (Andersen, Col.1, lines 40-42).

Other Prior Art

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Motoyama (USP 5,887,216) disclose a method and system for determining that problem exist in a business office device.

Wendell (USP 5,053,815) discloses a reproduction apparatus having real time statistical process control.

Allowable Subject Matter

11. Claims 6 and 26 have been objected to as containing informalities, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

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Regarding claim 6, none of the prior art of record teaches or suggests the combination of an intermittent aberrant component activity tracking, wherein the method comprising step of continuously monitoring a component; sensing a characteristic of the component; performing real time statistical calculations using sensed values of the characteristic of the component; and storing, in a memory, data including results of the calculations indicative of a fault, wherein the component is an encoder, wherein the sensed characteristic of the encoder is its timing, wherein servo specifications of the encoder require a tolerance of $\pm 0.1\%$ to $\pm 5\%$. It is these limitations as they are claimed in the combination, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 26, none of the prior art of record teaches or suggests the combination of a real time encoder frequency excursion recording method that can record excursions in real time on a product printed wire board assembly (PWBA) in an operating environment, wherein the method comprising step of continuously monitoring the encoder timing; doing real time statistical calculations; and storing the results of the calculations indicative of a fault in a memory for retrieval by service personnel or for uploading to the main controller at regular intervals during the run process, wherein servo specifications require a tolerance of $\pm 0.1\%$ to $\pm 5\%$. It is these limitations as they are claimed in the combination, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

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Contact Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Le whose telephone number is (703) 605-4361. The examiner can normally be reached on Monday to Friday from 9:00 AM to 5:30 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. John Barlow, can be reached at (703) 308-3126. The facsimile number for Technology Center 2800 is (703) 308-5841.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist of the Technology Center whose telephone number is (703) 308-0956.

John H. Le

Patent Examiner-Group 2863

July 2, 2003


John Barlow
Supervisory Patent Examiner
Technology Center 2800